

Dr Lam Shao Wei, Sean (PhD)

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Citizenship: Singaporean



Professional Experience:

Current Position:

Head, Data Science, Deputy Director (SingHealth), Oct 2012 – Now

Joint/Adjunct Positions:

Associate Professor, Health Services and Systems Research, Duke-NUS Graduate Medical School

Associate Professor, SingHealth Duke-NUS Global Health Institute

Visiting Scientist, Changi General Hospital

Adjunct Faculty, Lee Kong Chian School of Business, School of Economics and SMU School of Information Systems

Adjunct Senior Fellow, Singapore University of Technology and Design

Previous Appointments:

- Senior Manager, Data Science, Biostatistics and HSR (SGH and SingHealth), Oct 2012 – June 2018
- Associate Faculty, School of Business, Singapore University of Social Science, Jan 2011 – Dec 2016
- Senior Head, Ministry of Education, 2011 [Academic Research and Higher Education Division]
- Visiting Scholar in Exxon-Mobil Corporate Strategic Research Lab, 2010
- Research Fellow (NUS Industrial Systems Engineering and Business School), 2005 – 2011
- Senior Officer, R&D Policy Planning, Research Statistics Unit (A*STAR), 2004
- Six Sigma Consultant and Trainer, DFSS Black Belt Training (Design Technology Institute, NUS – TU/e), 2002-2004
- Research Engineer (Faculty of Engineering, NUS), 1999-2001

Academic Qualifications:

Ph. D. / 2011 National University of Singapore (NUS) Industrial and Systems Engineering;

M. Eng / 2003 National University of Singapore (NUS) Decision Science, Data Science, Operations Research

B. Eng / 1999 National University of Singapore (NUS) Mechanical Engineering (with Upper Honours)

Courses Developed/Taught:

- Smart Healthcare in Asia, Principles of Translational and Precision Medicine, Data Science and AI in Healthcare
- Decision Analysis, Operations Management, Service Processes, Project Management, Statistics
- Design for Six Sigma, Lean Six Sigma, Graduate Certificate in Healthcare Innovation
- Multivariate Analysis, Engineering Reliability; Quality Management

Awards and Honors:

1. Commendation Medal, Pingat Kepujian (COVID-19), Prime Minister Office, 2023.
2. APAC Data Impact Award Finalist, Cloudera Evolve, 2023.
3. SingHealth Quality and Innovation Day. Best Poster in the Innovation category, Project Permelis, 2022, Singapore
4. SingHealth Quality and Innovation Day. Special Recognition Award, Project Permelis, 2022, Singapore
5. Singapore Healthcare Management Congress. Best Poster Award (Patient Experience), 2022, Project Permelis, 2022, Singapore
6. SingHealth Family – Target Zero Harm Award 2022 Team Award (nominee), Project Permelis, Singapore.
7. Singapore Healthcare Management Congress. Best Poster Award (Supply Chain Management), 2022, SHARP Project, 2022, Singapore
8. Singapore Healthcare Management Congress. Best Poster Award (Supply Chain Management), 2022, AED Placement Project, 2022, Singapore
9. Singapore Healthcare Management Congress. Best Poster Award (Communications), 2022, ODySSEy Project, 2022, Singapore
10. Singapore General Hospital Annual Scientific Meeting. Best Poster Award, COVID Predictive Model 2022, Singapore
11. SingHealth Duke NUS Research Team Award (2nd Prize) COVID-19 Virtual Disease Health System Outbreak Model for Singapore (CoViD-SOS), 2021, Singapore

12. Singapore Healthcare Quality Service Award (Special Mention) 2021. COVID-19 Virtual Disease Health System Outbreak Model for Singapore (CoViD-SOS) [National quality service award] (Singapore).
13. Singapore Healthcare Quality Service Award (Silver) 2019 [National quality service award] (Singapore).
14. Singapore Healthcare Management Conference Best Poster Presentation (Operations Section), 2019 (Singapore)
15. 15th IEEE Conference on Automation Science and Engineering (CASE), Best Healthcare Paper, 2019 (Canada).
16. Congress of the APSR (Asian Pacific Society of Respiriology). Best Paper, Fukuchi Award, 2018 (Taiwan).
17. Surgical and Anaesthesia Congress 2017 (4-5 Aug 2017)– Best Poster Presentation (Surgery Category) (Singapore)
18. Singapore Healthcare Management Conference. Best Poster Presentation (Operations), 2017 (Singapore)
19. American Heart Association, Paul Dudley White International Scholar – International Science Team Award for Highest Ranked Abstract, 2017 (United States)
20. SingHealth YouShine Award, March 2017 – OT Dashboard Project for OT Optimization Task Force (Singapore)
21. SingHealth YouShine Award, Jul 2017–Analytics and Research Technologies for SingHealth (ARTS) (Singapore)
22. SingHealth Publish! Award, Medical Research, 2016 (Singapore)
23. INFORMS Healthcare Conference, Best Poster Presentation, 2015 (USA)
24. 6th International Conf on Information Management and Engineering Best Oral Presentation, 2014 (France)
25. Singapore Healthcare Management Conference Best Poster Presentation (Operations Section), 2013 (Singapore)
26. MTI Innovation Award from Ministry of Trade and Industry, 2012 (Singapore)
27. Most Cited Paper in Transportation Research Part C (Emerging Technologies) Paper 2012 (USA)
28. IIE Transactions Best Application Paper (Quality and Reliability Engineering Section), 2010 (USA)
29. Contributor to the book “Six Sigma: Advanced Tools for Black Belts and Master Black Belts”, Walter E. Masing Book Prize from the International Academy of Quality, 2007 (USA)
30. Singapore Health Services Long Service Award, 2021 (Singapore)

Selected Publications:

1. Lam SW, Fang A.H.S., Koh M.S. *et al.* Development of a real-world database for asthma and COPD: The SingHealth-Duke-NUS-GSK COPD and Asthma Real-World Evidence (SDG-CARE) collaboration. *BMC Med Inform Decis Mak* **23**, 4 (2023). <https://doi.org/10.1186/s12911-022-02071-6>
2. Lam SSW, Pourghaderi AR, Abdullah HR, et al. An Agile Systems Modeling Framework for Bed Resource Planning During COVID-19 Pandemic in Singapore. *Front Public Health*. 2022;10:714092. doi:[10.3389/fpubh.2022.714092](https://doi.org/10.3389/fpubh.2022.714092)
3. Xie J, Loke GG, Sim M, Lam SSW. The Analytics of Bed Shortages: Coherent Metric, Prediction, and Optimization. *Operations Research*. 2023;71(1):23-46. doi:[10.1287/opre.2021.2231](https://doi.org/10.1287/opre.2021.2231)
4. Zhou M, Sim M, Lam S. Advance admission scheduling via resource satisficing. *Production & Oper Manag*. 2022;31(11):4002-4020. doi:[10.1111/poms.13799](https://doi.org/10.1111/poms.13799)
5. Lam SSW, Zaribafzadeh H, Ang BY, Webster W, Buckland D, Mantyh C, Tan HK. Estimation of Surgery Durations Using Machine Learning Methods-A Cross-Country Multi-Site Collaborative Study. *Healthcare* (Basel). 2022 Jun 25;10(7):1191. doi: 10.3390/healthcare10071191. PMID: 35885718; PMCID: PMC9319102.
6. Pourghaderi AR, Kogtikov N, Lees MH, Cai W, Pin Pek P, Fu Wah Ho A, Ming Ng W, Kwak J, Elgin White A, LS Lim S, Lam SSW, MEH Ong. Maximum expected survival rate model for public access defibrillator placement. *Resuscitation*. 2021 Dec 6;170: 213-221. doi: 10.1016/j.resuscitation.2021.11.039. Epub ahead of print. PMID: 34883217.
7. X Sun, YM Bee, Lam SSW, Z Liu, W Zhao, SY Chia, HA Kadir, JT Wu, BY Ang, N Liu, L Zuo, Z Xu, T Zhao, G Hu, G Xie. Effective Treatment Recommendations for Type 2 Diabetes Management Using Reinforcement Learning: An Evaluation Study. *Journal of Medical Internet Research* (2021). Accepted.
8. EMP Fan, NHL Nguyen, SY Ang, F Aloweni, HQI Goh, LT Quek, TC Ayre, AR Pourghaderi, Lam SSW, MEH Ong. Impact of COVID-19 on acute isolation bed capacity and nursing workforce requirements: A retrospective review. *Journal of Nursing Management* (2021). <https://doi.org/10.1111/jonm.13260>
9. Ansah JP, Matchar DB, Lam SSW, Low JG, Pourghaderi A, Siddiqui FJ, et al. The Effectiveness of Public Health Interventions Against COVID-19: Lessons from the Singapore Experience. *PLoS One*. 2021; 16(3). pp e0248742, doi: 10.1371/journal.pone.0248742.
10. Siddiquia FJ, Cook AR, Clapham HE, Ansah JP, Matchar DB, Lam SSW, et al. How long will the COVID-19 outbreak last?: Commentary from Singapore’s perspective. *Journal of EMS Medicine*. 2021, doi: <https://doi.org/10.35615/jemsm.2020.00038>
11. Abdullah HR, Lam SSW, Ang BY, et al. Resuming elective surgery after COVID-19: A simulation modelling framework for guiding the phased opening of operating rooms. *International Journal of Medical Informatics*. 2022;158:104665. doi:[10.1016/j.ijmedinf.2021.104665](https://doi.org/10.1016/j.ijmedinf.2021.104665)